

RECEIVED

AUG 03 2001

TECH CENTER 1600/2900

TECH CENTER 1600/2900

AUG 30 2001

RECEIVED

646

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/631,863A

DATE: 07/15/2001

TIME: 19:00:16

Input Set :: A:\12211aa.ST25.txt

Output Set: N:\CRF3\07152001\I631863A.raw

ENTERED

4 <110> APPLICANT: Boehringer Ingelheim International GmbH
 6 <120> TITLE OF INVENTION: Tumor-associated Antigen R11
 8 <130> FILE REFERENCE: 12211aa
 10 <140> CURRENT APPLICATION NUMBER: US 09/631,863A
 11 <141> CURRENT FILING DATE: 2000-08-03
 13 <160> NUMBER OF SEQ ID NOS: 102
 15 <170> SOFTWARE: PatentIn version 2.1
 17 <210> SEQ ID NO: 1
 18 <211> LENGTH: 6582
 19 <212> TYPE: DNA
 20 <213> ORGANISM: Homo sapiens
 22 <220> FEATURE:
 23 <221> NAME/KEY: 5'UTR
 24 <222> LOCATION: (1)..(217)
 26 <220> FEATURE:
 27 <221> NAME/KEY: CDS
 28 <222> LOCATION: (218)..(1423)
 30 <220> FEATURE:
 31 <221> NAME/KEY: Unsure
 32 <222> LOCATION: (1424)..(1497)
 34 <220> FEATURE:
 35 <221> NAME/KEY: CDS
 36 <222> LOCATION: (1498)..(2571)
 38 <220> FEATURE:
 39 <221> NAME/KEY: 3'UTR
 40 <222> LOCATION: (2572)..(6582)
 42 <400> SEQUENCE: 1

43	acacgcgctt caacttcggt tgggtgtgtgt cgaagaaacc tgactgcgcc ctgaggagaa	60
45	cagcggagaa ggtccaccga gcctggcgaa aggtccgctg agcgggctgt cgtccggagc	120
47	cactccgggc tgcggagcac ccagtggaga ccgcgcctgg ctgaggtgtg ggaccccatc	180
49	cttctgtgtc tcgcagagga gtcctgcgct ggtgagt atg cga aat aag cgg gtt	235
50	Met Arg Asn Lys Arg Val	
51	1 5	
53	ttg aaa aca aaa aaa aga agg agt gga aga ggg ggc cag gat cca ggc	283
54	Leu Lys Thr Lys Lys Arg Arg Ser Gly Arg Gly Gly Gln Asp Pro Gly	
55	10 15 20	
57	ctc cat ccc cac aga agt gaa gct aca gct ggg agg tct cct ccc acc	331
58	Leu His Pro His Arg Ser Glu Ala Thr Ala Gly Arg Ser Pro Pro Thr	
59	25 30 35	
61	cca acc gtc acc ctg ggt ccc gac tgc cca cct cct cct cct ccc cct	379
62	Pro Thr Val Thr Leu Gly Pro Asp Cys Pro Pro Pro Pro Pro Pro Pro	
63	40 45 50	
65	ccc ccc aac aac aac aac aac aac aac tcc aag cac acc ggc cat aag	427
66	Pro Pro Asn Asn Asn Asn Asn Asn Asn Ser Lys His Thr Gly His Lys	
67	55 60 65 70	
69	agt gcg tgt gtc ccc aac atg acc gaa cga aga agg gac gag ctc tct	475
70	Ser Ala Cys Val Pro Asn Met Thr Glu Arg Arg Arg Asp Glu Leu Ser	

RECEIVED
 SEP -4 2001
 OIPE/JCWS

RAW SEQUENCE LISTING

DATE: 07/15/2001

PATENT APPLICATION: US/09/631,863A

TIME: 19:00:16

Input Set : A:\12211aa.ST25.txt

Output Set: N:\CRF3\07152001\I631863A.raw

71	75	80	85	
73 gaa gag atc aac aac tta aga gag aag gtc atg aag cag tcg gag gag				523
74 Glu Glu Ile Asn Asn Leu Arg Glu Lys Val Met Lys Gln Ser Glu Glu				
75	90	95	100	
77 aac aac aac ctg cag agc cag gtg cag aag ctc aca gag gag aac acc				571
78 Asn Asn Asn Leu Gln Ser Gln Val Gln Lys Leu Thr Glu Glu Asn Thr				
79	105	110	115	
81 acc ctt cga gag caa gtg gaa ccc acc cct gag gat gag gat gat gac				619
82 Thr Leu Arg Glu Gln Val Glu Pro Thr Pro Glu Asp Glu Asp Asp Asp				
83	120	125	130	
85 atc gag ctc cgc ggt gct gca gca gct gct gcc cca ccc cct cca ata				667
86 Ile Glu Leu Arg Gly Ala Ala Ala Ala Ala Ala Pro Pro Pro Pro Ile				
87 135	140	145	150	
89 gag gaa gag tgc cca gaa gac ctc cca gag aag ttc gat ggc aac cca				715
90 Glu Glu Glu Cys Pro Glu Asp Leu Pro Glu Lys Phe Asp Gly Asn Pro				
91	155	160	165	
93 gac atg ctg gct cct ttc atg gcc cag tgc cag atc ttc atg gaa aag				763
94 Asp Met Leu Ala Pro Phe Met Ala Gln Cys Gln Ile Phe Met Glu Lys				
95	170	175	180	
97 agc acc agg gat ttc tca gtt gat cgt gtc cgt gtc tgc ttc gtg aca				811
98 Ser Thr Arg Asp Phe Ser Val Asp Arg Val Arg Val Cys Phe Val Thr				
99	185	190	195	
101 agc atg atg acc ggc cgt gct gcc cgt tgg gcc tca gca aag ctg gag				859
102 Ser Met Met Thr Gly Arg Ala Ala Arg Trp Ala Ser Ala Lys Leu Glu				
103	200	205	210	
105 cgc tcc cac tac ctg atg cac aac tac cca gct ttc atg atg gaa atg				907
106 Arg Ser His Tyr Leu Met His Asn Tyr Pro Ala Phe Met Met Glu Met				
107 215	220	225	230	
109 aag cat gtc ttt gaa gac cct cag agg cga gag gtt gcc aaa cgc aag				955
110 Lys His Val Phe Glu Asp Pro Gln Arg Arg Glu Val Ala Lys Arg Lys				
111	235	240	245	
113 atc aga cgc ctg cgc caa ggc atg ggg tct gtc atc gac tac tcc aat				1003
114 Ile Arg Arg Leu Arg Gln Gly Met Gly Ser Val Ile Asp Tyr Ser Asn				
115	250	255	260	
117 gct ttc cag atg att gcc cag gac ctg gat tgg aac gag cct gcg ctg				1051
118 Ala Phe Gln Met Ile Ala Gln Asp Leu Asp Trp Asn Glu Pro Ala Leu				
119	265	270	275	
121 att gac cag tac cac gag ggc ctc agc gac cac att cag gag gag ctc				1099
122 Ile Asp Gln Tyr His Glu Gly Leu Ser Asp His Ile Gln Glu Glu Leu				
123	280	285	290	
125 tcc cac ctc gag gtc gcc aag tcg ctg tct gct ctg att ggg cag tgc				1147
126 Ser His Leu Glu Val Ala Lys Ser Leu Ser Ala Leu Ile Gly Gln Cys				
127 295	300	305	310	
129 att cac att gag aga agg ctg gcc agg gct gct gca gct cgc aag cca				1195
130 Ile His Ile Glu Arg Arg Leu Ala Arg Ala Ala Ala Arg Lys Pro				
131	315	320	325	
133 cgc tcg cca ccc cgg gcg ctg gtg ttg cct cac att gca agc cac cac				1243
134 Arg Ser Pro Pro Arg Ala Leu Val Leu Pro His Ile Ala Ser His His				
135	330	335	340	

RAW SEQUENCE LISTING

DATE: 07/15/2001

PATENT APPLICATION: US/09/631,863A

TIME: 19:00:16

Input Set : A:\12211aa.ST25.txt

Output Set: N:\CRF3\07152001\I631863A.raw

```

137 cag gta gat cca acc gag ccg gtg gga ggt gcc cgc atg cgc ctg acg      1291
138 Gln Val Asp Pro Thr Glu Pro Val Gly Gly Ala Arg Met Arg Leu Thr
139      345      350      355
141 cag gaa gaa aaa gaa aga cgc aga aag ctg aac ctg tgc ctc tac tgt      1339
142 Gln Glu Glu Lys Glu Arg Arg Lys Leu Asn Leu Cys Leu Tyr Cys
143      360      365      370
145 gga aca gga ggt cac tac gct gac aat tgt cct gcc aag gcc tca aag      1387
146 Gly Thr Gly Gly His Tyr Ala Asp Asn Cys Pro Ala Lys Ala Ser Lys
147 375      380      385      390
149 tct tcg ccg gcg gga aac tcc ccg gcc ccg ctg tag agggaccttc      1433
150 Ser Ser Pro Ala Gly Asn Ser Pro Ala Pro Leu
151      395      400
153 agcgaccggg ccagaaataa taagggtcccc acaagatgat gcctcatctc cacacttgca      1493
155 agtg atg ctc cag att cat ctt ccg ggc aga cac acc ctg ttc gtc cga      1542
156      Met Leu Gln Ile His Leu Pro Gly Arg His Thr Leu Phe Val Arg
157      405      410      415
159 gcc atg atc gat tct ggt gct tct ggc aac ttc att gat cac gaa tat      1590
160 Ala Met Ile Asp Ser Gly Ala Ser Gly Asn Phe Ile Asp His Glu Tyr
161      420      425      430
163 gtt gct caa aat gga att cct cta aga atc aag gac tgg cca ata ctt      1638
164 Val Ala Gln Asn Gly Ile Pro Leu Arg Ile Lys Asp Trp Pro Ile Leu
165      435      440      445
167 gtg gaa gca att gat ggg cgc ccc ata gca tcg ggc cca gtt gtc cac      1686
168 Val Glu Ala Ile Asp Gly Arg Pro Ile Ala Ser Gly Pro Val Val His
169      450      455      460
171 gaa act cac gac ctg ata gtt gac ctg gga gat cac cga gag gtg ctg      1734
172 Glu Thr His Asp Leu Ile Val Asp Leu Gly Asp His Arg Glu Val Leu
173 465      470      475      480
175 tca ttt gat gtg act cag tct cca ttc ttc cct gtc gtc cta ggg gtt      1782
176 Ser Phe Asp Val Thr Gln Ser Pro Phe Phe Pro Val Val Leu Gly Val
177      485      490      495
179 cgc tgg ctg agc aca cat gat ccc aat atc aca tgg agc act cga tct      1830
180 Arg Trp Leu Ser Thr His Asp Pro Asn Ile Thr Trp Ser Thr Arg Ser
181      500      505      510
183 atc gtc ttt gat tct gaa tac tgc cgc tac cac tgc cgg atg tat tct      1878
184 Ile Val Phe Asp Ser Glu Tyr Cys Arg Tyr His Cys Arg Met Tyr Ser
185      515      520      525
187 cca ata cca cca tcg ctc cca cca gca cca caa ccg cca ctc tat      1926
188 Pro Ile Pro Pro Ser Leu Pro Pro Pro Ala Pro Gln Pro Pro Leu Tyr
189      530      535      540
191 tat cca gta gat gga tac aga gtt tac caa cca gtg agg tat tac tat      1974
192 Tyr Pro Val Asp Gly Tyr Arg Val Tyr Gln Pro Val Arg Tyr Tyr Tyr
193 545      550      555      560
195 gtc cag aat gtg tac act cca gta gat gag cac gtc tac cca gat cac      2022
196 Val Gln Asn Val Tyr Thr Pro Val Asp Glu His Val Tyr Pro Asp His
197      565      570      575
199 cgc ctg gtt gac cct cac ata gaa atg ata cct gga gca cac agt att      2070
200 Arg Leu Val Asp Pro His Ile Glu Met Ile Pro Gly Ala His Ser Ile
201      580      585      590

```

RAW SEQUENCE LISTING

DATE: 07/15/2001

PATENT APPLICATION: US/09/631,863A

TIME: 19:00:16

Input Set : A:\12211aa.ST25.txt

Output Set: N:\CRF3\07152001\I631863A.raw

```

203 ccc agt gga cat gtg tat tca ctg tcc gaa cct gaa atg gca gct ctt      2118
204 Pro Ser Gly His Val Tyr Ser Leu Ser Glu Pro Glu Met Ala Ala Leu
205          595          600          605
207 cga gat ttt gtg gca aga aat gta aaa gat ggg cta att act cca acg      2166
208 Arg Asp Phe Val Ala Arg Asn Val Lys Asp Gly Leu Ile Thr Pro Thr
209          610          615          620
211 att gca cct aat gga gcc caa gtt ctc cag gtg aag agg ggg tgg aaa      2214
212 Ile Ala Pro Asn Gly Ala Gln Val Leu Gln Val Lys Arg Gly Trp Lys
213 625          630          635          640
215 ctg caa gtt tct tat gat tgc cga gct cca aac aat ttt act atc cag      2262
216 Leu Gln Val Ser Tyr Asp Cys Arg Ala Pro Asn Asn Phe Thr Ile Gln
217          645          650          655
219 aat cag tat cct cgc cta tct att cca aat tta gaa gac caa gca cac      2310
220 Asn Gln Tyr Pro Arg Leu Ser Ile Pro Asn Leu Glu Asp Gln Ala His
221          660          665          670
223 ctg gca acg tac act gaa ttc gta cct caa ata cct gga tac caa aca      2358
224 Leu Ala Thr Tyr Thr Glu Phe Val Pro Gln Ile Pro Gly Tyr Gln Thr
225          675          680          685
227 tac ccc aca tat gcc gcg tac ccg acc tac cca gta gga ttc gcc tgg      2406
228 Tyr Pro Thr Tyr Ala Ala Tyr Pro Thr Tyr Pro Val Gly Phe Ala Trp
229          690          695          700
231 tac cca gtg gga cga gac gga caa gga aga tca cta tat gta cct gtg      2454
232 Tyr Pro Val Gly Arg Asp Gly Gln Gly Arg Ser Leu Tyr Val Pro Val
233 705          710          715          720
235 atg atc act tgg aat cca cac tgg tac cgc cag cct ccg gta cca cag      2502
236 Met Ile Thr Trp Asn Pro His Trp Tyr Arg Gln Pro Pro Val Pro Gln
237          725          730          735
239 tac ccg ccg cca cag ccg ccg cct cca cca cca cca ccg ccg ccg cct      2550
240 Tyr Pro Pro Pro Gln Pro Pro Pro Pro Pro Pro Pro Pro Pro Pro
241          740          745          750
243 cca tct tac agt acc ctg taa atacctgtca tgtccttcag gatctctgcc      2601
244 Pro Ser Tyr Ser Thr Leu
245          755
247 ctcaaaatattt attcctgttc agctttctcaa tcagtgaactg tgtgctaaat tttaggctac      2661
249 tgtatcttca ggccacctga ggcacatcct ctctgaaacg gctatggaag gttagggcca      2721
251 ctctggactg gcacacatcc taaagcacca aaagaccttc aacattttct gagagcaaca      2781
253 gagtatttgc caataaatga tctctcattt ttccaccttg actgccaatc taactaaaat      2841
255 aattaataag tttactttcc agccagtcct ggaagtctgg gttttacctg ccaaaacctc      2901
257 catcaccatc taaattatag gctgccaat ttgctgttta acatttacag agaagctgat      2961
259 acaaacgcag gaaatgctga tttctttatg gagggggaga cgaggaggag gaggacatga      3021
261 cttttcttgc ggtttcggtta cctctttttt aaatcactgg aggactgagg ctttattaag      3081
263 gaagccaaaa ttatcggtgc agtgtggaag ggcttcctgt atcctctcgc tgcacctta      3141
265 gaaacttcac cgtcttcaaa ctccatttcc atggttctgt taattctcaa ggagcagcaa      3201
267 ctcgactggt tctcccagga gcaggaaaaa cccttgtgac atgaaacatc tcaggcctga      3261
269 aaagaaagtg ctctctcaga tggactcttg catgttaaga ctatgtcttc acatcatggt      3321
271 gcaaatacaca tgtacccaat gactccggct ttgacacaa accttaccat catcatgcca      3381
273 tgatggcttc cacaaagcat taaacctggg aaccagagat tactgggtgg tccagcggtg      3441
275 ttagatgttc atgaaatgtg accacctctc aatcaccttt gagggctaaa gagtagcaca      3501
277 tcaaaaggac tccaaaatcc cataccaac tcttaagaga tttgtcctgg tacttcagaa      3561

```

RAW SEQUENCE LISTING

DATE: 07/15/2001

PATENT APPLICATION: US/09/631,863A

TIME: 19:00:16

Input Set : A:\12211aa.ST25.txt

Output Set: N:\CRF3\07152001\I631863A.raw

279	agaattttca	tgagtgttct	taattggctg	gaaaagcacc	agctgacgtt	ttggaagaat	3621
281	ctatccatgt	gtctgcctcc	atatgcattc	gggcatttca	tcttcagtcc	cctcattaga	3681
283	ctgtagcatt	aggatgtgtg	gagagaggag	aaatgattta	gcaccagat	tcacactcct	3741
285	atgcctggaa	gggggacatc	tttgaagaag	aggaattagg	gctgtggaca	ctgtcttgag	3801
287	gatgtggact	tccttagtga	gctccacatt	acttgatggt	aaccacttca	aaaggatcag	3861
289	aatccacgta	atgaaaaagg	tccctctaga	ggatggagct	gatgtgaagc	tgccaatgga	3921
291	tgaaaagcct	cagaaagcaa	ctcaaaggac	tcaaagcaac	ggacaacaca	agagtgtgtc	3981
293	tcagcccagt	gacacctctg	atgtcccctg	gaagctttgt	gctaacctgg	gactgcctga	4041
295	cttcctttag	cctgggtccct	tgtactacc	ttgaactggt	ttatctaacc	tctctttttc	4101
297	tgtttaattc	tttgctactg	ccattgaccc	tgtgcagga	tttgtgtcat	tttctgcct	4161
299	ggttgctgag	actccatttt	gctgccacac	acagagatgt	aagaggcagg	ctttaattgc	4221
301	caaagcacag	tttgagcagt	agaaaacaac	atggtgtata	tctcaaattg	cctgacatga	4281
303	agaggagtct	aacggtgaag	tttcaacttt	catcagcatc	atctttcaca	tgttcattat	4341
305	catccgctct	tattcttgca	tgtttaaaca	cttaaaattt	ttagtataat	ttttagtgtg	4401
307	ttttgaagtg	gtgactaggc	tttcaaaaac	ttccattgaa	ttacaaagca	ctatccagtt	4461
309	cttattgtta	aactaagtaa	aaatgataag	taacatagtg	taaaatattc	ctttactgtg	4521
311	aacttcttac	aatgctgtga	atgagaggct	cctcagaact	ggagcatttg	tataataatt	4581
313	catcctgttc	atcttcaatt	ttaacatcat	atataatttc	aattctatca	attgggcctt	4641
315	taaaaatcat	ataaaaggat	ataaaatttg	aaaagagaaa	cctaattggc	tatttaatcc	4701
317	aaaacaactt	ttttttttcc	ttcaatggaa	tcagaaagct	tgtcaatcac	tcatgtgttt	4761
319	tagagtaatt	acttttaaaa	tgggtgcattt	gtgcttctga	actattttga	agagtcactt	4821
321	ctgtttacct	caagtatcaa	ttcatcctcc	atacatttga	attcaagttg	ttttttgtca	4881
323	aatttacagt	tgtcaattga	tcttcaagct	gcaggggtgc	tagaaatggg	ccgttgtctg	4941
325	tagccctggc	atgtgcacac	ggacatttgc	caccactgca	agcaaaagtc	tggagaagtt	5001
327	caccaacgac	aagaacgatt	agggaaaata	tgtgtgtgtg	ggttaacaac	tcagaaagtc	5061
329	cctgatccac	atgttgctgt	ttactaaagc	ttgtgattaa	ctttttggca	gtgtgtacta	5121
331	tgtctatttg	ctatatatgc	tatctataaa	tgtagatggt	aaggataagt	aattctaaat	5181
333	ttattattct	atagttttga	agttttggtt	agtttccctt	cactcaattg	atttattttg	5241
335	ttgttaatca	aatttatggt	aattggatcc	tttaaatttt	ttttggcatt	ttccaacaaa	5301
337	aatggcttta	ttcataagaa	aggaaaaaaa	tcaatggaat	ttgatattca	aagaagttag	5361
339	aaagggagca	aaataaaaaa	cataaaggag	atagatgaat	tagtaagcaa	atcagtagtc	5421
341	gagtttttca	aactggcaaa	attaattaat	tgacttttag	cccaaattta	cattgttaat	5481
343	taaatcaaga	aggaagaaga	tctaagagct	cccattgata	ggcaagccta	gagagaacta	5541
345	gctaaattta	tcatgctagg	atattgaaac	acagaaagtt	tacatacatt	tatgaagggt	5601
347	caatttagtt	tggacagtga	ggtatttgtc	ttagtggaaa	aaaggagaat	tagtctgac	5661
349	aaatcgtgaa	gtaatacagt	gaacttgcag	gtgcacaaaa	taagagggcc	acatctatat	5721
351	ggtgcagtct	ggaattctgt	ttaagtttgt	aggtacctct	tggacttctg	aattgatcca	5781
353	gttgtcatcc	accacagaca	tctcacatca	gatacagaca	gttccaagat	tgacaacaga	5841
355	gaacaacctg	ctggaaagac	ctgggcagaa	atggagagcc	ctgcgggaac	catgctacat	5901
357	tttcatctaa	agdgagaatg	cacatctgat	gagactgaaa	gttctttgtt	gttttagatt	5961
359	gtagaatggt	attgaattgg	tctgtggaaa	attgcattgc	ttttatttct	ttgtgtaatc	6021
361	aagtttaagt	aataggggat	atataatcat	aagcattttt	gggtgggagg	gactattaag	6081
363	taattttaag	tgggtggggt	tatttagaat	gttagaataa	tattatgtat	tagataatcgc	6141
365	tataagtgga	catgcgtact	tacttgtaac	cctttaccct	ataattgcta	tccttaaaga	6201
367	tttcaaataa	actcggaggg	aactgcaggg	agaccaactt	atttagagcg	aattggacat	6261
369	ggataaaaaa	cccagtggga	gaaagttcaa	aggtgattag	attaataaatt	taatagagga	6321
371	tgagtgcctt	ctgataaatt	actgctagaa	tgaacttgtc	aatgatggat	ggtaaaatttt	6381
373	catggaagtt	ataaaaagtga	taaaataaaa	cccttgcttt	taccctgtc	agtagccctc	6441
375	ctoctaccac	tgaaccccat	tgcccctacc	cctccttcta	actttattgc	tgtattctct	6501

VERIFICATION SUMMARY

DATE: 07/15/2001

PATENT APPLICATION: US/09/631,863A

TIME: 19:00:17

Input Set : A:\12211aa.ST25.txt

Output Set: N:\CRF3\07152001\I631863A.raw